

FIELD INVESTIGATION TEAM ACTIVITIES AT
UNCONTROLLED HAZARDOUS SUBSTANCES
FACILITIES — ZONE I

NUS CORPORATION
SUPERFUND DIVISION

02-8910-03-SI
REV. NO. 0

FINAL SITE INSPECTION REPORT
AIRCRAFT PAINTING, INC.
MILLVILLE, NEW JERSEY

PREPARED UNDER
TECHNICAL DIRECTIVE DOCUMENT NOS. 02-8805-04 AND 02-8910-03
CONTRACT NO. 68-01-7346

FOR THE
ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

OCTOBER 31, 1989

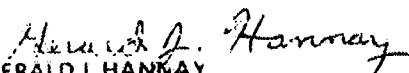
NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY



DIANE TRUBE
PROJECT MANAGER

REVIEWED/APPROVED BY.



GERALD J. HANNAY
SITE MANAGER



RONALD M. NAMAN
FACILITY OFFICE MANAGER

SITE NAME: Aircraft Painting, Inc.
ADDRESS: Millville Municipal Airport
Millville, New Jersey 08332

EPA ID NO.: NJD096854229
LATITUDE: 39° 22' 29" N
LONGITUDE: 75° 04' 23" W
BLOCK NO.: 631
LOT NO.: 23

1.0 SITE SUMMARY

Aircraft Painting, Inc. is an active facility located in the former Boeing-Vertol hangar at the north end of the Millville Municipal Airport in Millville, Cumberland County, New Jersey. The surrounding area is generally flat and rural in nature, with the major population center located in the center of the city of Millville 2 miles northeast of the site.

Aircraft Painting, Inc. has been owned and operated since 1977 by Thomas and James Iwasz. Operations include the stripping and repainting of small aircraft. These activities take place inside a hangar that is leased from the City of Millville. The hangar is 65 feet wide and 165 feet long and has a cement floor that is slightly depressed to form a channel along the east wall, allowing for the accumulation of wash waters from the paint stripping process. Three floor drains, now plugged, are also located along the east wall in the channel. The concrete pavement outside and in the front of the hangar slopes gently downward to a storm drain 300 feet south of the hangar. The storm drain crosses the property from west to east, draining the adjacent airport properties and discharging eventually into a drainage ditch in a wooded area approximately 1200 feet north of the site.

Paint is removed from the airplanes either by the spray application of a solvent stripping agent or by sanding. The solvent used consists primarily of methylene chloride, but also contains ammonia, sodium chromate, and methanol. After the solvent has dissolved and removed the paint from an airplane, the plane is hosed down with fresh tap water or with previously used wash water. Three or four airplanes are stripped per month, using approximately 18 to 20 gallons of solvent per airplane. Prior to 1983, the company owners collected and disposed of the coagulated paint drippings into a garbage dumpster for disposal at the Millville Municipal Landfill. The wash waters were allowed to enter the floor drains located along the east wall of the hangar, which discharged into the storm drain 300 feet south of the hangar. In May 1982, the New Jersey Department of Environmental Protection (NJDEP) began an investigation into possible sources of alleged contamination in a Millville municipal well, identified as Airport Well No. 3, located several hundred feet southeast of the outfall of the storm drain into the drainage ditch. Data evidencing alleged contamination of Airport Well No. 3 is unavailable. The NJDEP identified Aircraft Painting, Inc. and the adjacent Airwork Corporation as potential sources of contamination. As a result of this investigation, the owners of Aircraft Painting, Inc. plugged the floor drains and began collecting the wash waters and paint sludges via a sump pump into a 4000-gallon steel tank on site. The NJDEP

had collected a sample of this paint sludge in June 1982, but because the facility qualified as a small waste quantity generator, the sample was never analyzed. There is no indication that any groundwater samples were collected during the NJDEP investigation.

On August 2, 1988, NUS Corporation Region 2 FIT collected surface water and sediment samples from the drainage ditch north of the site and an aqueous sample from the solvent wash water storage tank on site. Groundwater samples were also collected from two municipal wells located at the Millville Municipal Airport. The analytical results of these samples indicated the presence of butylbenzophthalate, bis(2-ethylhexyl) phthalate, 2-methylnaphthalene, phenol, tetrachloroethene, antimony, cadmium, and lead in the solvent tank as well as the surface water and/or sediment of the drainage ditch. In addition, tetrachloroethene at a concentration of 15 ppm and cadmium at a concentration of 6.2 ppm were detected in Airport Well No. 3. Both of these contaminants were present in the solvent wash water storage tank on site, and therefore may be attributable to the facility. Because of the close proximity of Airwork Corp., and the possibility that it may be responsible in some part for the contamination present, it is not possible to positively identify Aircraft Painting as the source of these contaminants.

Ref. Nos. 1-5, 22, 23, 24

2.0 SITE INSPECTION NARRATIVE

2.1 EXISTING ANALYTICAL DATA

During a site inspection of the Aircraft Painting facility by the NJDEP in June 1982, a sample was collected of the paint sludge produced by the paint stripping process. However, because the company qualified as a small waste quantity generator, the sample was never analyzed. Although the NJDEP targeted Airport Well No. 3 as allegedly contaminated as of May 1982, there are no data available evidencing contamination of Airport Well No. 3, prior to the analysis of samples taken during the August 2, 1988 Region 2 FIT site inspection.

Ref. Nos. 4, 5

2.2 WASTE SOURCE DESCRIPTION

The main waste source on site is a 4000-gallon aboveground steel tank located approximately 50 feet south of the Aircraft Painting, Inc. hangar along the east property boundary. The tank is used to store the chlorinated solvent wash waters generated by the paint stripping process. The tank is held in place by metal brackets underneath it, elevating the tank several inches above the concrete pavement. There are four 2-inch-diameter openings on the top of the tank which allow for evaporation of its contents. Because the tank is situated on a slight incline, the south end of the tank is slightly lower than the north end. There is no liner underneath the tank, nor are there any containment or diversion structures surrounding it.

Prior to 1983, the wash waters were allowed to enter the floor drains along the east wall of the hangar, which discharged into the storm drain south of the hangar. The storm drain eventually empties into a drainage ditch in a wooded area 1200 feet north of the Aircraft Painting, Inc. site. Based on field observations and information provided by the Millville Engineering Department, at least a portion of the drainage ditch is concrete-lined. The drainage ditch does not appear on the topographic map (Millville, N.J. Quadrangle), and there are no obvious migration pathways from the drainage ditch to a downslope surface water. For these reasons and because the contents of the drainage ditch may be percolating into the groundwater, the drainage ditch is considered to be a waste source. The addition of the drainage ditch as a waste source does not significantly increase the waste quantity.

It was noted during the site inspection that the concrete pavement between the Aircraft Painting, Inc. hangar and the storm drain was stained a grayish-green color. No sample was collected from the storm drain, however, as there was an insufficient quantity of water in the drain.

Ref. Nos. 2, 4, 5, 6, 23, 24

2.3 GROUNDWATER ROUTE

The aquifer of concern is the Kirkwood-Cohansey aquifer system, a designated sole source aquifer, generally the shallowest source of groundwater throughout most of Cumberland County and the most important source of water in the county. It is composed primarily of the Kirkwood Formation and the Cohansey Sand, with locally distributed overlying Pleistocene deposits of the Bridgeton and Cape May Formations. The Kirkwood-Cohansey aquifer system is a predominantly unconfined aquifer, and underlies an area of approximately 3000 square miles in the coastal plain of southeast New Jersey. The lithology of the Kirkwood Formation varies from thick clay beds with interbedded zones of sand and gravel along the coast to an inland composition of fine to medium sand and silty sand, with regionally extensive clay beds occurring at the base of the formation. The overlying Cohansey Sand is coarser-grained than the Kirkwood Formation, and consists of a predominantly light-colored quartz sand containing minor amounts of pebbly sand, fine- to coarse-grained sand, silty and clayey sand, and interbedded clay. Some local clay beds within the Cohansey Sand are relatively thick. Perched water tables and semiconfined conditions may be present locally in the Kirkwood-Cohansey aquifer system.

Silt, sand, and gravel deposits of the Bridgeton Formation overlie the Cohansey Sand on the flatter upland areas and basin divides in the northern, central, and northeastern parts of Cumberland County. The Millville Municipal Airport is located on a deposit of Bridgeton Formation sediments. Reported thicknesses of the formation range up to approximately 50 feet. In much of the upland areas of Cumberland County, the Bridgeton Formation occurs largely above the water table. In these areas, it serves as a collecting unit for infiltrating recharge from precipitation to the underlying Kirkwood-Cohansey aquifer. Where the water table is within the Bridgeton Formation, the formation may yield small amounts of water to shallow domestic wells. The Bridgeton Formation consists of clayey silt, sand gravel, and thin layers of silty clay, with an estimated permeability of 10^{-5} to 10^{-7} centimeters per second.

The older Bridgeton Formation sediments were partially removed by erosion prior to the deposition of the Cape May Formation. The Cape May Formation consists of alternating layers of sand, clay, and fine gravel. A belt of Cape May deposits, ranging up to 2.5 miles wide, extends up the Maurice River Valley through Millville to about the Gloucester County line. The thickness of the Cape May Formation ranges up to approximately 120 feet in Cumberland County.

The total thickness of the Kirkwood-Cohansey aquifer system in the Millville area is approximately 325 feet, with the base of the unit occurring at an estimated depth of 250 feet below sea level. The permeability of the Kirkwood-Cohansey aquifer has been reported to be 2,700 gallons per day per square foot, or greater than 10^{-3} centimeters per second. The depth to groundwater in the vicinity is

generally less than 30 feet, although local variations occur. Groundwater flow is reported to be in a west to east direction. Net precipitation for the vicinity is approximately 10 inches per year.

Eight public supply wells located within a 3-mile radius of the Aircraft Painting, Inc. site and drawing from the Kirkwood-Cohansey aquifer serve approximately 24,500 persons in the city of Millville. Six industrial wells located northeast of the site draw from the Cohansey Sand, the upper water-bearing unit of the aquifer of concern. Numerous private wells used for domestic supply and irrigation are also located within 3 miles of the site. Table 1 summarizes the available well data and groundwater usage information for the public supply and major industrial wells within a 3-mile radius of Aircraft Painting, Inc. The available well data usage information can be found in References 11 and 12 of this report. As can be seen from this table, the Millville public supply wells Airport No. 1 and Airport No. 3 are the closest wells to the site, located 0.2 mile to the southwest and 0.2 mile to the northeast, respectively. During the site inspection by NUS Corporation Region 2 FIT on August 2, 1988, samples were collected from these wells to document the presence or absence of contaminants attributable to Aircraft Painting, Inc. The samples were collected from taps in the distribution lines from the well pumps. The analytical results of these samples indicated a value of 15 ppm of tetrachloroethene and 6.2 ppm of cadmium that might be attributable to the facility, in Airport Well No. 3 downgradient of the site. No tetrachloroethene was detected in Airport Well No. 1, which is upgradient of the site. Cadmium was present in Airport Well No. 1 below CRQL limits.

As previously mentioned, an investigation conducted by the NJDEP in 1982 to determine possible sources of alleged contamination in Airport Well No. 3 identified Aircraft Painting, Inc. as a potential contributor. However, there is no indication that any groundwater samples were collected during the NJDEP investigation, and there are no analytical data available evidencing contamination of Airport Well No. 3, prior to the analysis of samples taken during the August 2, 1988 Region 2 FIT site inspection. An NJDEP investigator noted during his field investigation that the drainage ditch into which the storm drain discharges had diminished in size downstream, "indicating that some of the flow had percolated to the groundwater." Current waste collection procedures at the Aircraft Painting, Inc. facility should minimize the potential for groundwater contamination to occur via such a route, as all wastes generated by the solvent stripping process are pumped into a 4000-gallon steel tank located on a concrete pavement. The practice of reusing the solvent wash waters and the evaporation process have maintained the quantity of wastes in the tank to its present volume of less than one-half full. If, however, spills or site runoff from this or the adjacent Airwork Corp. property were to enter the storm drain and discharge into the drainage ditch, the potential for groundwater contamination would be greatly increased, as the underlying geologic materials are highly permeable. Contaminants potentially attributable to the site already present in the ditch are listed in Section 4.0 of this report.

Ref. Nos 1, 4, 5, 7-16, 21, 22, 23, 24, 25

Table 1

**Groundwater Usage
within 3 miles of Aircraft Painting, Inc.
Millville, New Jersey**

Name	Owner Identification Number	Distance from Site (miles)	Direction from site	Well Depth (feet)	Aquifer	Static Water Level (feet below ground surface)	Population Served		Acreage Irrigated
							Use		
City of Millville Millville, N.J.	Airport No. 1	0.2	Southwest	181	Kirkwood-Cohansey	94	Public Supply	24,500*	N/A
	Airport No. 2	0.3	Southeast	147	Kirkwood-Cohansey	64	Public Supply		
	Airport No. 3	0.2	Northeast	161	Kirkwood-Cohansey	78	Public Supply		
	Ware Ave. No. 13	2.1	Northeast	260	Kirkwood-Cohansey	Flowing	Public Supply		
	Ware Ave. No. 14	2.1	Northeast	120	Kirkwood-Cohansey	68	Public Supply		
	Ware Ave. No. 15	2.3	Northeast	131	Kirkwood-Cohansey	54	Public Supply		
	Ware Ave. No. 16	2.3	Northeast	86	Kirkwood-Cohansey	66	Public Supply		
	Bridgeton Pike	2.2	Northwest	118	Kirkwood-Cohansey	56	Public Supply		
National Can Corp. Millville, N.J.	1	2.1	Northeast	115	Cohansey	0	Industrial	N/A	N/A
	2	2.1	Northeast	108	Cohansey	17	Industrial	N/A	N/A
	3	2.2	Northeast	140	Cohansey	20	Industrial	N/A	N/A
Leaton Glass Millville, N.J.	1	2.9	Northeast	132	Cohansey	Not Reported	Industrial	N/A	N/A
	2	3.0	Northeast	34	Cohansey	Not Reported	Industrial	N/A	N/A
	3	3.0	Northeast	34	Cohansey	Not Reported	Industrial	N/A	N/A

*All wells are interconnected and serve a total population of approximately 24,500.

2.4 SURFACE WATER ROUTE

The Aircraft Painting, Inc. hangar is located at approximately 75 feet above mean sea level (MSL). The concrete pavement in front of the hangar slopes southward to a storm drain that crosses the site from west to east; all runoff from the site is intercepted by this storm drain. Site slope is less than 2 percent. Within a 3-mile radius of the site, there is a general decrease in elevation from approximately 90 feet MSL at the westernmost radial extent to 10 feet MSL along the Maurice River, 1.85 miles to the east.

There are no potentially affected downslope surface waters. The nearest downslope surface water is an unnamed stream located 0.8 mile south of the Aircraft Painting, Inc. hangar. All site runoff in the direction of this stream is intercepted by the storm drain located 300 feet south of the hangar. The drainage ditch into which the storm drain discharges does not appear on the topographic map (Millville, N.J. Quadrangle), and there are no migration pathways from it to a downslope surface water. For these reasons, and because the contents of the ditch may be percolating into the groundwater, the drainage ditch is considered to be a potential waste source rather than a surface water body.

The nearest major surface waters in the area are the Maurice River, located 1.85 miles east of the site, and Union Lake, located 2.1 miles northeast and upstream from the closest section of the Maurice River to the site. Union Lake was once used as a source of public water supply, but such use was abandoned in 1964 because of the inability to satisfactorily treat the water. Other designated uses of the Maurice River include the maintenance, migration, and propagation of the natural and established biota; primary and secondary contact recreation; industrial and agricultural water supply; and any other reasonable uses.

The nearest freshwater wetland is the Buckshutem Swamp 2.1 miles southeast of the site in an area designated as a state hunting and fishing grounds. There are no coastal wetlands within 2 miles and no critical habitats of federally listed endangered species within 1 mile of the site. One-year 24-hour rainfall for the area is 2.5 to 3 inches.

Ref. Nos 1, 2, 4, 12, 13, 17, 18, 19

2.5 AIR ROUTE

During the collection of the downstream sediment sample in the drainage ditch by NUS Corporation Region 2 FIT on August 2, 1988, readings of more than 10 parts per million (ppm) on the Organic Vapor Analyzer (OVA) and 7 ppm on the HNu photoionization detector (HNu) were detected in the

first sample bottle filled for volatile organics analysis. As sampling continued, a strong organic odor and also a petroleum odor were noted by the samplers. Sampling activities were temporarily halted so that the samplers could don level B respiratory protection. When sampling resumed, readings of 8.5 ppm on the OVA and 7 ppm on the HNu were detected in the mixing bowl filled with sediments. A reading of 5 ppm was detected on the OVA in the ambient air at the downstream sample location.

At the upstream sample location, a reading of 2.2 ppm was noted on the OVA during the collection of the surface water sample. Because the level of detection on the OVA continued to rise, sampling was again temporarily halted so that the samplers could don the appropriate respiratory protection. Prior to the collection of the aqueous sample from the solvent wash water storage tank at the Aircraft Painting, Inc. Site, readings of 20 ppm on the OVA and 3 ppm on the HNu were detected at one of the openings on the top of the tank. Readings of 75 ppm on the OVA and 1.5 on an explosimeter were detected from the sample collected into the receiving flask. There were no readings on any of the instruments in the breathing zone.

The nearest historic landmark is located 2.4 miles northeast of the Aircraft Painting, Inc. facility and is not within view of the site. There are approximately 25,400 residents within 4 miles of the site.

Volatile and semivolatile contaminants present in the drainage ditch are listed in Section 4.0 of this report.

Ref. Nos. 2, 4, 20, 26

2.6 ACTUAL HAZARDOUS CONDITIONS

In May 1982, a representative of the New Jersey Department of Environmental Protection (NJDEP) conducted an investigation at the Millville Municipal Airport in an attempt to determine the source of alleged contamination in Airport Well No. 3. During the investigation, a gray-green discoloration of the bottom sediments in the drainage ditch was observed. The same discoloration was observed in two of the three immediately upstream manholes located along the storm drain which discharges into the ditch. The inspector also visited the Airwork Corp. and Aircraft Painting, Inc. facilities. At the latter, he noted that one of the planes in the hangar had been painted with what appeared to be a primer similar in color to that seen in the manholes and the drainage ditch. The Airwork Corp. facility included machine shops, assembly shops, plating shops, and testing areas for jet engines. No samples were collected during the NJDEP investigation in May 1982. Another inspector for the NJDEP visited the Aircraft Painting, Inc. facility in June 1982, at which time he collected a sample of the paint sludges generated from the paint removal process. The sample was never analyzed, however, because it was determined that the operation qualified as a small waste quantity generator. A gray-green discoloration of the concrete pavement in front and downslope of the hangar was noted by

NUS Corporation Region 2 FIT personnel during the site inspection on August 2, 1988. Actual hazardous conditions exist at the site in relation to the evidence indicating the possibility of a release of tetrachloroethene and cadmium from the facility to the groundwater, which is present in Airport Well No. 3 at concentrations of 15 ppm and 6.2 ppm respectively, according to analytical results of the groundwater samples collected by NUS Corporation Region 2 FIT on August 2, 1988. A sample was not collected from the storm drain during the NUS Corporation Region 2 FIT site inspection conducted on August 2, 1988, as there was an insufficient quantity of water in the drain to allow for such sampling. However, contamination present in the drainage ditch downstream of the storm drain would indicate that the storm drain is contaminated. None of these contaminants can be positively attributed to the site because of the close proximity of Airwork Corp., which may have been responsible for all or part of the contamination. Although a fire marshal has not certified that the facility presents a significant threat, the reading of 1.5 on an explosimeter obtained during the NUS Corporation Region 2 FIT site inspection on August 2, 1988, indicated the potential for a fire or explosion in relation to the contamination present in the drainage ditch. There are no actual hazardous conditions pertaining to human or environmental contamination that have been documented in the following areas of concern:

- Contamination has not been documented either in organisms in a food chain leading to humans or in organisms directly consumed by humans.
- There have been no documented observed incidents of direct physical contact with hazardous substances at the facility involving a human being (not including occupational exposure) or a domestic animal.
- There have been no documented incidents of damage to flora (e.g., stressed vegetation) or to fauna (e.g., fish kill) that can be attributed to the hazardous material at the facility.
- There have been no analyses of soil samples showing above-background contamination that is attributable to the facility.

Ref. Nos. 4, 5, 23, 24

3.0 MAPS AND PHOTOS

AIRCRAFT PAINTING, INC. MILLVILLE, NEW JERSEY

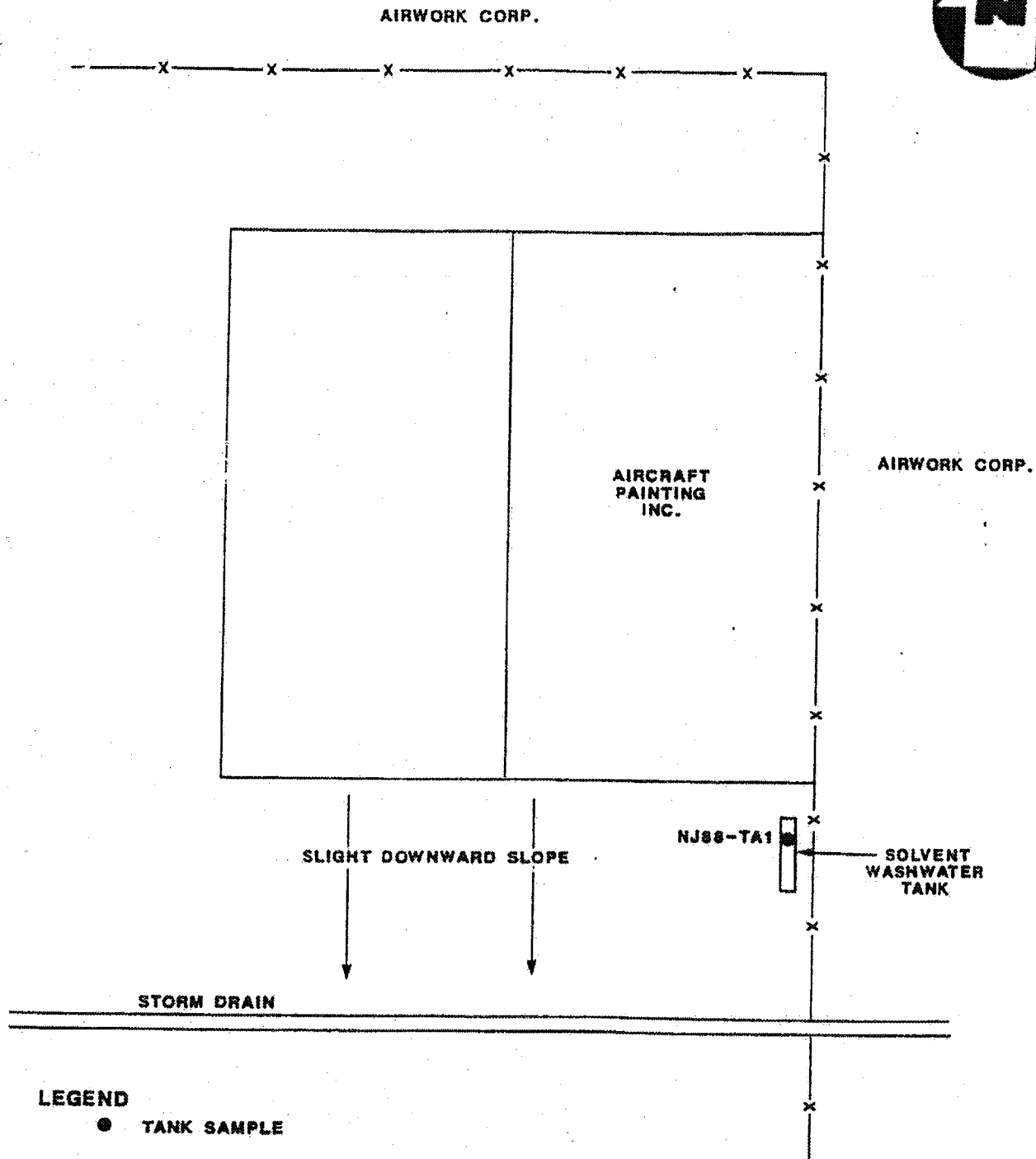
- Figure 1: Site Location Map
- Figure 2: On-Site Sample Location Map
- Figure 3: Off-Site Sample Location Map
- Figure 4: Drainage Ditch Sample Location Detail Map
- Exhibit A: Photograph Log



SCALE: 1"= 2000'



NUS
CORPORATION



LEGEND

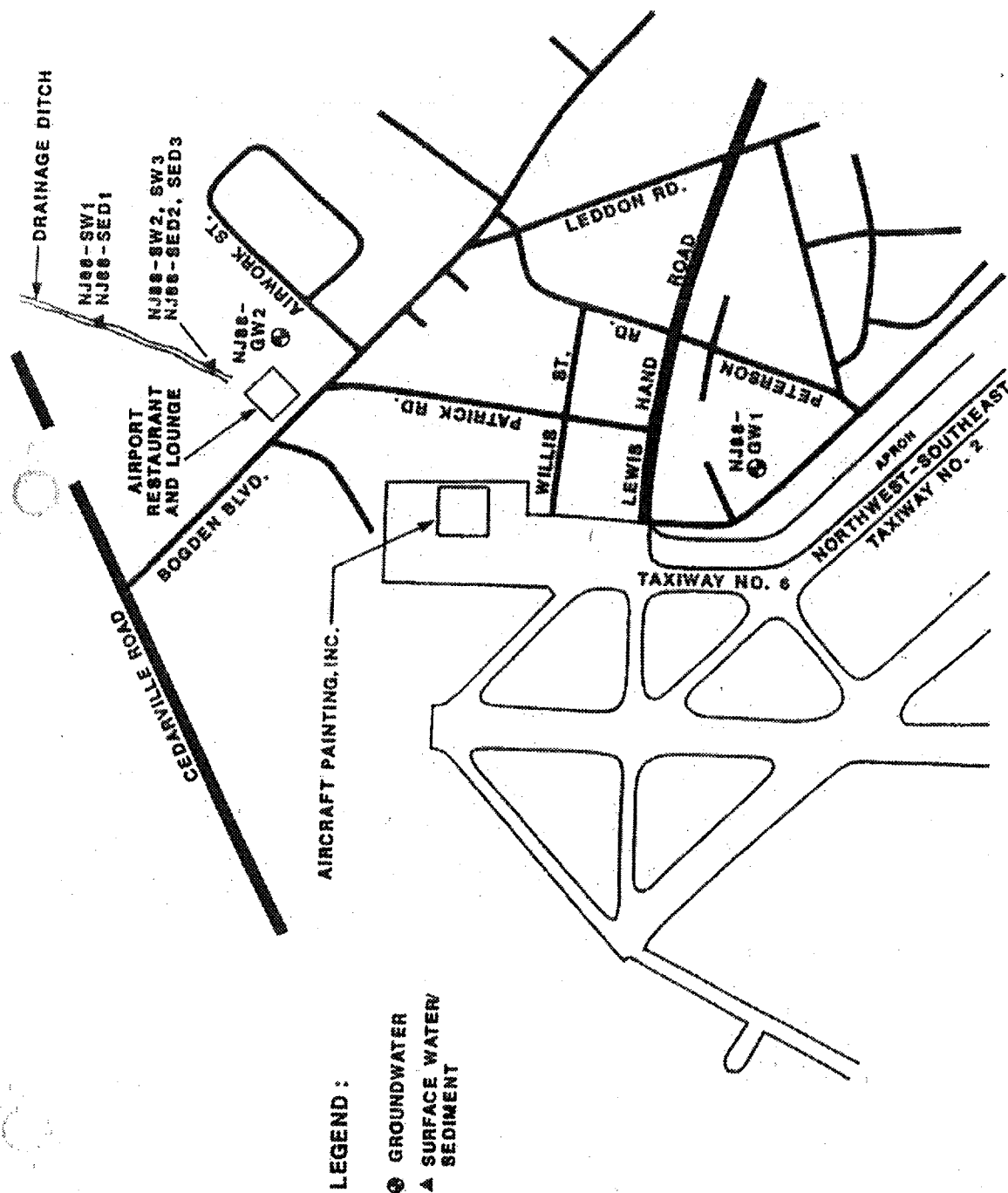
● TANK SAMPLE

ON-SITE SAMPLE LOCATION MAP
AIRCRAFT PAINTING, INC., MILLVILLE, N.J.

(NOT TO SCALE)

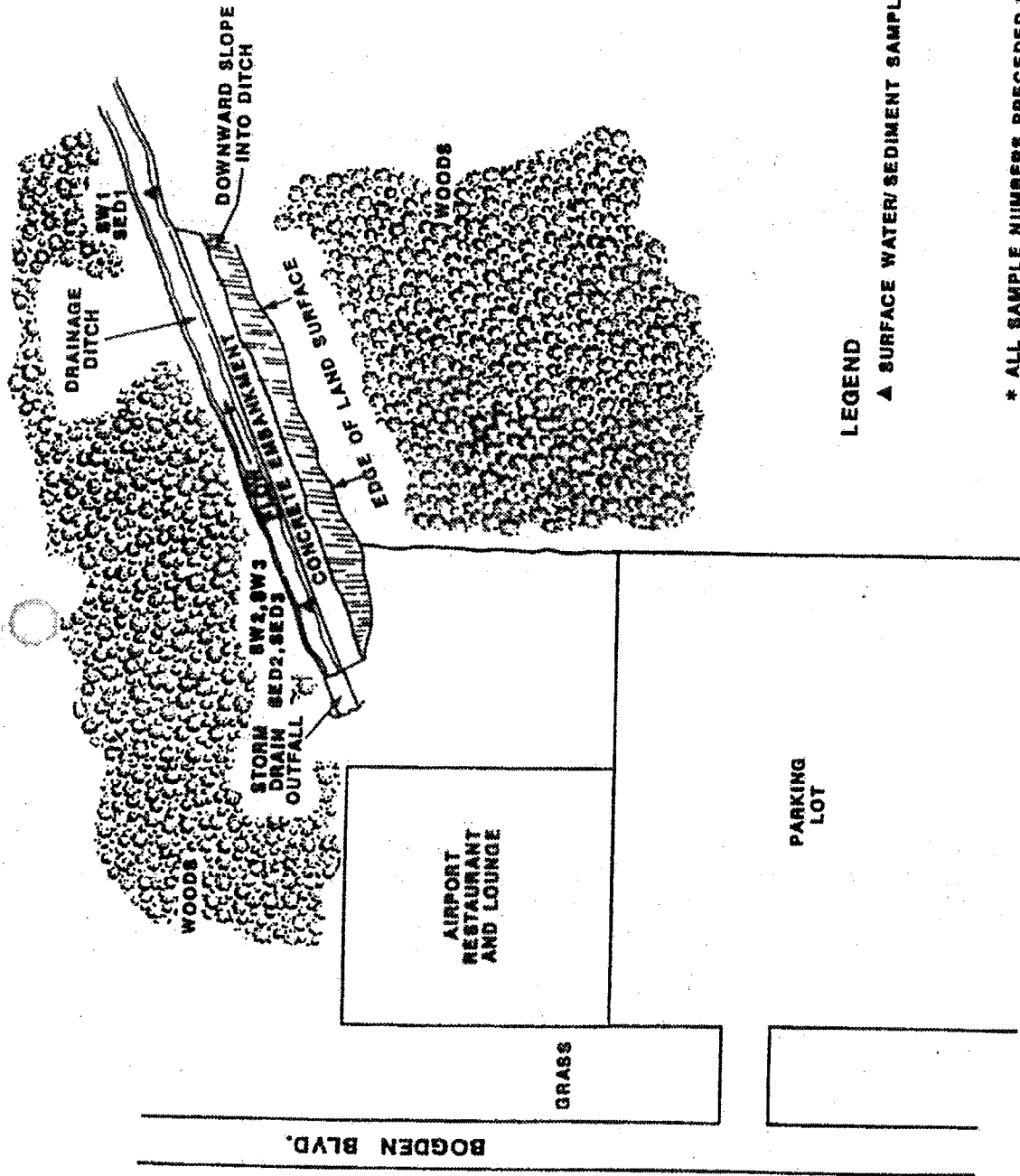
FIGURE 2





OFF-SITE SAMPLE LOCATION MAP
AIRCRAFT PAINTING, INC., MILLVILLE, N.J.

(SCALE UNKNOWN)



LEGEND

▲ SURFACE WATER/SEDIMENT SAMPLE

* ALL SAMPLE NUMBERS PRECEDED BY NJ88

DRAINAGE DITCH SAMPLE LOCATION DETAIL MAP
AIRCRAFT PAINTING INC., MILLVILLE, N.J.

(NOT TO SCALE)



FIGURE 4

EXHIBIT A

PHOTOGRAPH LOG

AIRCRAFT PAINTING, INC.
MILLVILLE, NEW JERSEY

JULY 19 and AUGUST 2, 1988

AIRCRAFT PAINTING, INC.
MILLVILLE, NEW JERSEY
JULY 19 and AUGUST 2, 1988
PHOTOGRAPH INDEX

ALL PHOTOGRAPHS TAKEN BY JOANN WAGNER

<u>Photo Number</u>	<u>Description</u>	<u>Time</u>
1P-9	July 19, 1988 View from the rear towards the front of the Aircraft Painting, Inc. hangar, showing the east wall along which floor drains are located.	1040
1P-10	July 19, 1988 East wall of the Aircraft Painting Inc. hangar, showing the location of one of the plugged floor drains (within the darkened area to the right of the step ladder), approximately 15 to 20 feet from the hangar door.	1043
1P-11	July 19, 1988 Storage tank into which solvent wash waters are pumped, located along the east side of the site, approximately 50 feet south of the hangar.	1048
1P-13	July 19, 1988 View of the storm drain that extends across the airport property 300 feet south of the Aircraft Painting, Inc. hangar, into which the floor drains in the hangar once discharged.	1047
1P-10	August 2, 1988 View of the discolored sloping pavement between the Aircraft Painting, Inc. hangar and the storm drain. Photo was taken while standing at the storm drain, facing north.	1825
1P-11	August 2, 1988 View along the storm drain, facing east towards the adjacent Airwork Corp. property. The storm drain extends across that property also.	1825
1P-14	July 19, 1988 Stan Shulfer and Kurt Fendler conducting reconnaissance of the storm drain outfall into the drainage ditch, located in a wooded area approximately 1200 feet north of the Aircraft Painting Inc. hangar and behind the Airport Restaurant and Lounge.	1143
1P-1	August 2, 1988 Kurt Fendler collecting surface water sample NJ88-SW1 from the downstream sample location in the drainage ditch into which the storm drain empties.	0905
1P-2	August 2, 1988 Kurt Fendler collecting sediment sample NJ88-SED1 from the same downstream location as NJ88-SW1.	1010
3	August 2, 1988 Phil Solinski collecting surface water sample NJ88-SW2 from the upstream sample location in the drainage ditch near the storm drain outfall.	1110

AIRCRAFT PAINTING, INC.
MILLVILLE, NEW JERSEY
JULY 19 and AUGUST 2, 1988
PHOTOGRAPH INDEX (CONT)

ALL PHOTOGRAPHS TAKEN BY JOANN WAGNER

<u>Photo Number</u>	<u>Description</u>	<u>Time</u>
1P-4	August 2, 1988 Phil Solinski collecting surface water sample NJ88-SW3 from the same upstream location in the drainage ditch as NJ88-SW2 (SW3 is the environmental duplicate of SW2).	1135
1P-5	August 2, 1988 Kurt Fendler collecting sediment sample NJ88-SED2 from the same upstream location in the drainage ditch as NJ88-SW2.	1138
1P-6	August 2, 1988 Kurt Fendler collecting sediment sample NJ88-SED3 from the same upstream location in the drainage ditch as NJ88-SED2 (SED3 is the environmental duplicate of SED2).	1140
1P-7	August 2, 1988 Chris Casiere collecting downgradient groundwater tap sample NJ88-GW2 from Millville public supply well Airport No. 3.	1225
	August 2, 1988 Darrell Soo Hoo collecting upgradient groundwater tap sample NJ88-GW1 from Millville public supply well Airport No. 1.	1235
1P-9	August 2, 1988 Kurt Fendler collecting aqueous sample NJ88-TA1 from the solvent wash water storage tank at the Aircraft Painting, Inc. site.	1600

AIRCRAFT PAINTING, INC.
MILLVILLE, NEW JERSEY

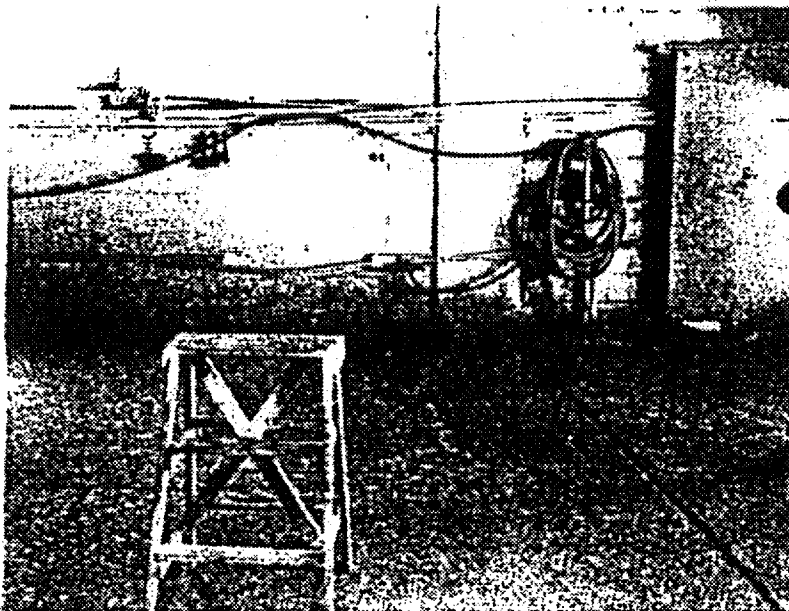


IP-9

July 19, 1988

1040

View from the rear towards the front of the Aircraft Painting, Inc. hangar, showing the east wall along which floor drains are located.



IP-19

July 19, 1988

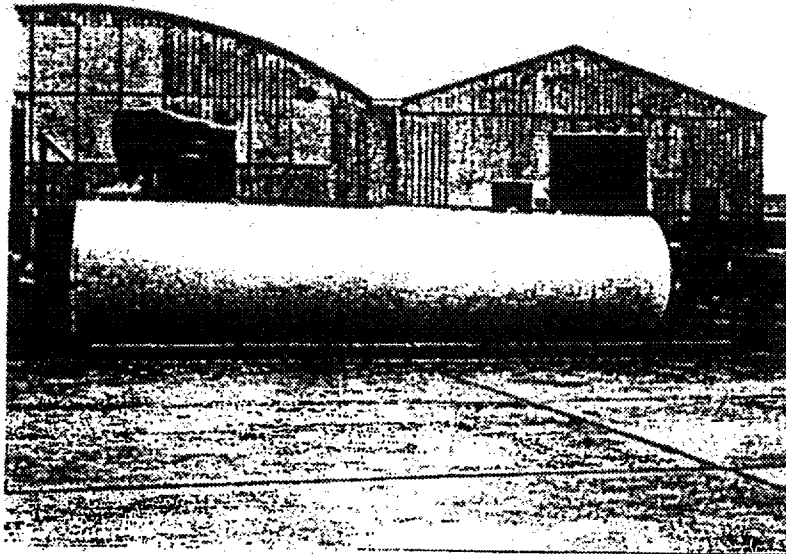
1043

East wall of the Aircraft Painting, Inc. hangar, showing the location of one of the plugged floor drains (within the darkened area to the right of the step ladder), approximately 15 to 20 feet from the hangar



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AIRCRAFT PAINTING, INC.
MILFORD, NEW JERSEY



IP-11

July 19, 1988

1048

Storage tank into which solvent wash waters are pumped, located along the east side of the site, approximately 50 feet south of the hangar.



IP-12

July 19, 1988

1047

View of the storm drain that extends across the airport property 300 feet south of the Aircraft Painting, Inc. hangar, into which the floor drains in the hangar once discharges.

AIRCRAFT PAINTING, INC.
MILLVILLE, NEW JERSEY



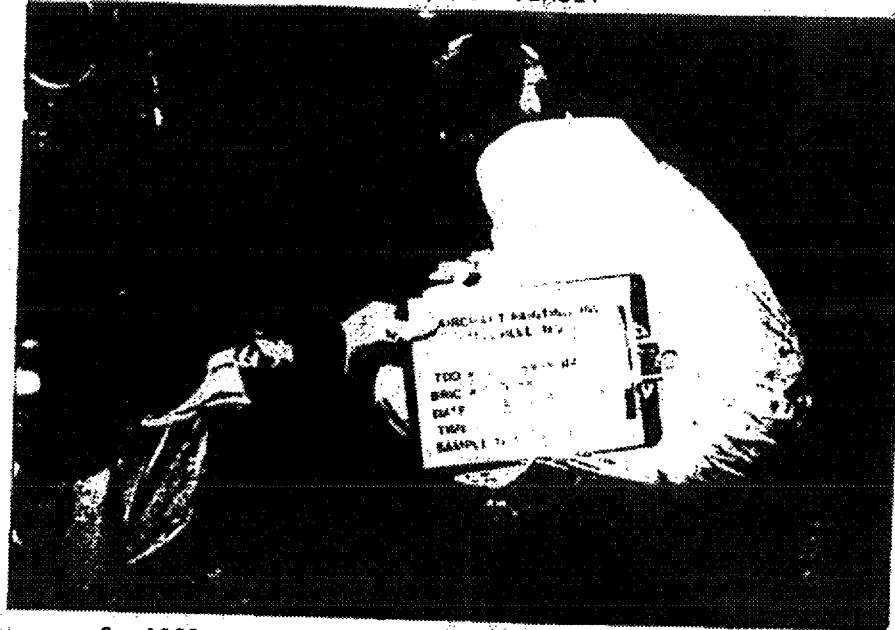
1P-14

July 19, 1988

1143

Sean Shulfer and Kurt Fendler conducting reconnaissance of the storm drain outfall into the drainage ditch, located in a wooded area approximately 1200 feet north of the Aircraft Painting, Inc. hangar and behind the Airport Restaurant and Lounge.

AIRCRAFT PAINTING, INC.
MILLVILLE, NEW JERSEY



1P-1

August 2, 1988 0905
Kurt Fendler collecting surface water sample NJ88-SW1 from the downstream sample location in the drainage ditch into which the storm drain empties.



1P-2

August 2, 1988 1010
Kurt Fendler collecting sediment sample NJ88-SED1 from the same downstream location as NJ88-SW1.

AIRCRAFT PAINTING, INC.
MILLVILLE, NEW JERSEY

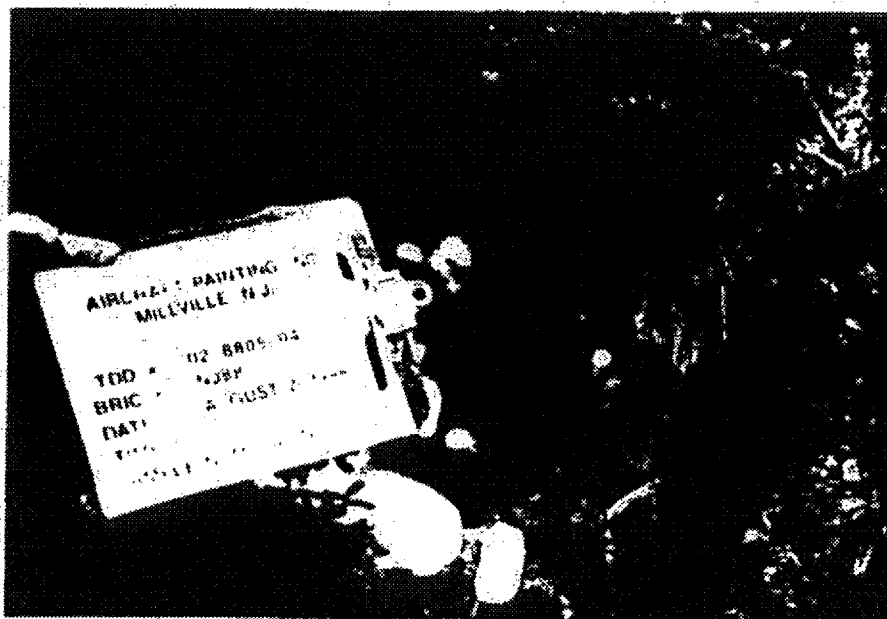


IP-3

August 2, 1988

1110

Phil Solinski collecting surface water sample NJ88-SW2 from the upstream sample location in the drainage ditch near the storm drain outfall.



IP-4

August 2, 1988

1135

Phil Solinski collecting surface water sample NJ88-SW3 from the same upstream location in the drainage ditch as NJ88-SW2 (SW3 is the environmental duplicate of SW2).

AIRCRAFT PAINTING, INC.
MILLVILLE, NEW JERSEY



LP-6

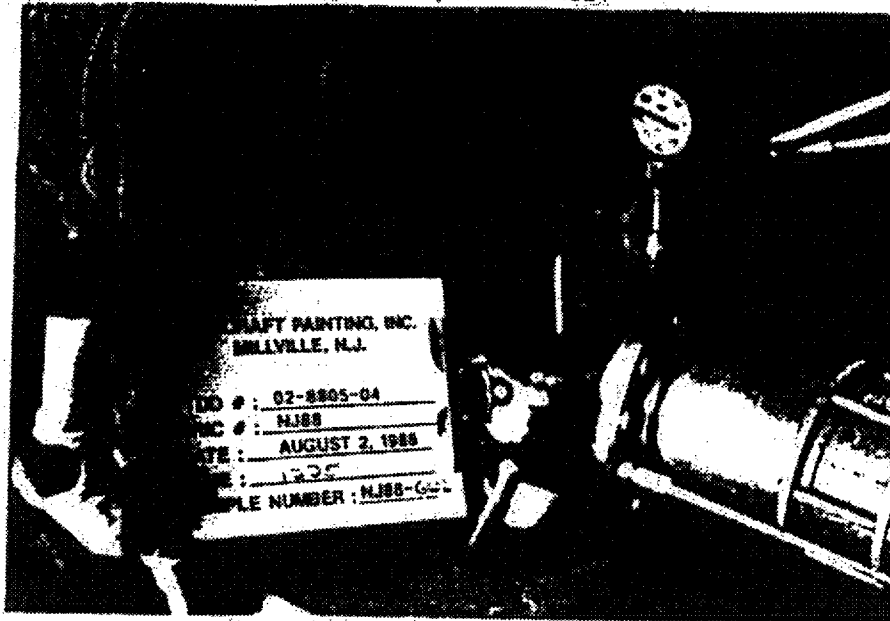
August 2, 1988 1138
Kurt Fendler collecting sediment sample NJ88-SED2 from the same upstream location in the drainage ditch as NJ88-SW2.



LP-6

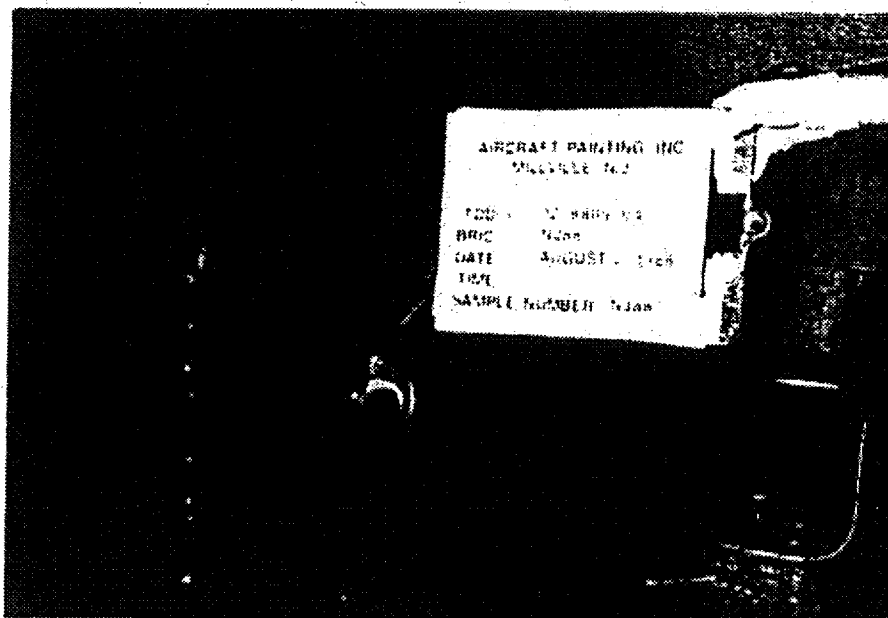
August 2, 1988 1140
Kurt Fendler collecting sediment sample NJ88-SED3 from the same upstream location in the drainage ditch as NJ88-SED2 (SED3 is the environmental duplicate of SED2).

AIRCRAFT PAINTING, INC.
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IP-7

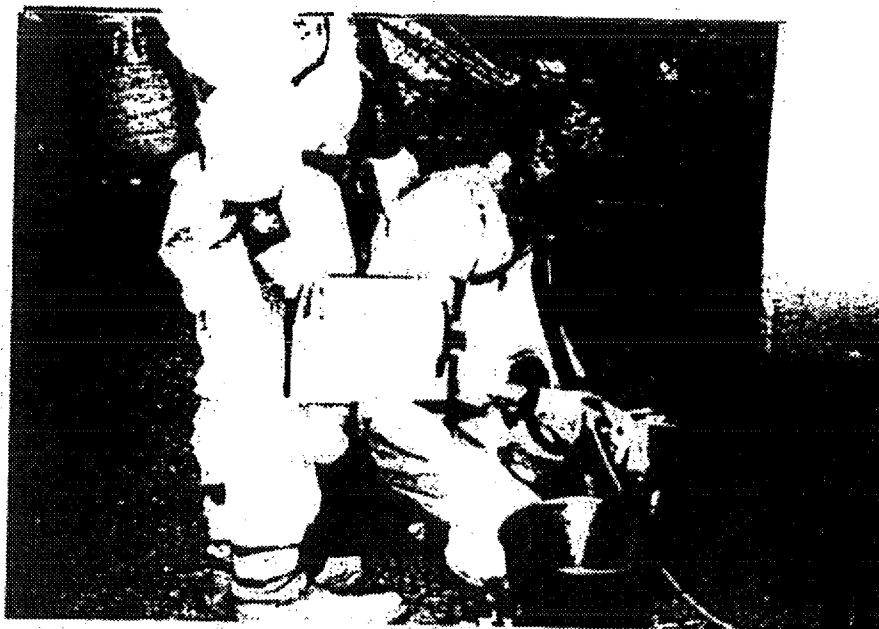
August 2, 1988 1225
Chris Casiere collecting downgradient groundwater tap sample NJ88-GW2
from Millville public supply well Airport No. 3.



IP-8

August 2, 1988 1235
Darrell Soo Hoo collecting upgradient groundwater tap sample NJ88-GW1
from Millville public supply well Airport No. 1.

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8P-9

August 2, 1988 1600
Kurt Fendler collecting aqueous sample N088-T41 from the solvent wash
water storage tank at the Aircraft Painting, Inc. site.

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MILLVILLE, NEW JERSEY



IP-10

August 2, 1988

1825

View of the discolored sloping pavement between the Aircraft Painting, Inc. hangar and the storm drain. Photo was taken while standing at the storm drain, facing north.



IP-11

August 2, 1988

1825

View along the storm drain, facing east towards the adjacent Airwork Corp. property. The storm drain extends across that property also.

4.0 SITE INSPECTION SAMPLE RESULTS

NUS Corp. Region 2 FIT personnel conducted a site inspection of Aircraft Painting, Inc. on August 2, 1988, during which aqueous, soil, and sediment samples were collected. The analytical results are presented in References 23 and 24 of this report. Sample locations are presented in Figures 2, 3, and 4 found in Section 3.0 of this report. These samples were analyzed to determine the presence of Target Compound List (TCL) substances which may be attributable to the site.

Analyses of groundwater samples indicate the presence of tetrachloroethene at a concentration of 15 ppb and cadmium at a concentration of 6.2 ppm in Airport Well No. 3, downgradient of the site. Both of these substances may be attributable to the site because of their presence in samples taken from the solvent storage tank on site and the drainage ditch. The absence of these substances in quantifiable amounts in Airport Well No. 1, upgradient of the site, further indicates the contaminants as possibly attributable to the site.

Three surface water and companion sediment samples were collected from the drainage ditch to document the presence or absence of contaminants in the ditch. Sample numbers NJ88-SW1 and NJ88-SED1 were taken 8 feet downstream of the end of a concrete embankment along the southeast side of the ditch. Sample numbers NJ88-SW2, NJ88-SED2, NJ88-SW3 and NJ88-SED3 were taken 10 feet downstream of the outfall of the cement storm drain into the ditch. Because of the nature of the drainage ditch it was not possible to obtain an upstream sample. In addition, an aqueous sample, NJ88-TA1, was collected from the storage tank on the Aircraft Painting, Inc. site to determine whether any contaminants in the drainage ditch, if detected, might be attributable to the Aircraft Painting facility. Delta - BHC, a pesticide, was present below quantifiable limits in sample NJ88-TA1 and at a concentration of 22 ppb in sample NJ88-SED1. Pesticides detected in the drainage ditch, but not in the storage tank are as follows: endosulfan I was present below quantifiable limits in sample NJ88-SED3, 4,4'-DDT was present at a concentration of 410 ppb in sample NJ88-SED2, 4,4'-DDD was present at a concentration of 170 ppb in sample NJ88-SED3, and gamma chlordane was present at a concentration of 26 ppb in NJ88-SED3 and below quantifiable limits in NJ88-SED2. Complete analytical data are in References 23 and 24. Additional analytical results of samples that indicate the presence of contaminants possibly attributable to the Aircraft Painting facility in the drainage ditch are listed as follows:

A. Volatile and Semivolatile Organics:

<u>Substance</u>	<u>Sample No.</u>	<u>Concentration in ppb</u>
Butylbenzophthalate	NJ88-SED1	J
	NJ88-SED2	J
	NJ88-SED3	J
	NJ88-TA1	7,100 E
bis(2-Ethylhexyl)phthalate	NJ88-SW1	J
	NJ88-SED1	J
	NJ88-SED2	71,000 E
	NJ88-SED3	J
2-Methyl naphthalene	NJ88-TA1	1100 E
	NJ88-SED1	J
	NJ88-SED3	J
	NJ88-TA1	J
Phenol	NJ88-SED2	J
	NJ88-SED3	10,000 E
	NJ88-TA1	3,700 E
Tetrachloroethene	NJ88-SW1	J
	NJ88-SW2	J
	NJ88-SW3	J
	NJ88-TA1	J
	NJ88-GW2	15

B. Inorganics:

<u>Substance</u>	<u>Sample No.</u>	<u>Concentration</u>
Antimony	NJ88-SW1	60.9 ppb
	NJ88-SW3	75 ppb
	NJ88-TA1	4,630 ppb
Cadmium	NJ88-SW1	70.7 ppb
	NJ88-SED1	5.1 ppm
	NJ88-SW2	85.4 ppb
	NJ88-SW3	80.2 ppb
	NJ88-TA	1,320E ppb
Lead	NJ88-SW1	155 ppb
	NJ88-SED1	1,370 ppm
	NJ88-SED2	243 ppm
	NJ88-SED3	419 ppm

E = estimated value

J = estimated value, compound present below CRQL but above IDL.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Sample analysis indicates contamination of surface water and sediments in an off-site drainage ditch by volatiles, semivolatiles, inorganics and one pesticide, which may be attributed to the facility. Airport Well No. 3 is contaminated with concentrations of 15 ppm of tetrachloroethane and 6.2 ppm of cadmium. Both of these substances may be attributed to the facility because of their presence in the drainage ditch and waste solvent tank. Because of the close proximity of Airwork Corp., and the possibility that it may be responsible in some part for the contamination present, it is not possible to positively identify Aircraft Painting as the source of these contaminants. Groundwater within 3 miles of the site serves approximately 24,500 people in Millville. For these reasons a Listing Site Inspection recommended for this site.

6.0 REFERENCES

1. Telecon Notes: Conversations between Tom Iwasz, Aircraft Painting, Inc., and Joann Wagner, NUS Corporation, July 22, 1988 and August 25, 1988.
2. U.S. Department of the Interior, Geological Survey Topographic Maps, 7.5 minute series, "Dividing Creek Quadrangle, New Jersey", 1956, photorevised 1972; "Millville Quadrangle, New Jersey", 1953, photorevised 1972; "Bridgeton Quadrangle, New Jersey", 1953, photorevised 1972; and "Cedarville Quadrangle, New Jersey", 1956, photorevised 1972.
3. Telecon Note: Conversation between Tom Iwasz, Aircraft Painting, Inc., and Joann Wagner, NUS Corporation, July 11, 1988.
4. Field Notebook No. 0284, Aircraft Painting, Inc., TDD No. 02-8805-04, on-site reconnaissance conducted on July 19, 1988, and site inspection conducted on August 2, 1988, NUS Corporation Region 2 FIT, Edison, New Jersey.
5. Preliminary Assessment Report, New Jersey Department of Environmental Protection (NJDEP), Hazardous Site Mitigation, Bureau of Environmental Evaluation and Risk Assessment, Trenton, New Jersey, January 1, 1985.
6. Airport Industrial Park Development, Rental Uniform Service of Millville, Inc. Engineering Department, City of Millville, Cumberland County, New Jersey. September 26, 1983.
7. Zapecza, O.S. Hydrogeologic framework of the New Jersey Coastal Plain, regional aquifer-system analysis. U.S. Geological Survey open-file report 84-730. Trenton, New Jersey, 1984.
8. Rooney, J.G. Ground-water resources, Cumberland County, New Jersey. Special Report No. 34. State of New Jersey Department of Environmental Protection, Division of Water Resources. Prepared in cooperation with the United States Department of the Interior Geological Survey, 1971.
9. State of New Jersey, Department of Conservation and Economic Development, Atlas Sheet No. 40, Geologic Map of New Jersey by J. Volney Lewis and Henry B. Kümmel, 1910-1912.
10. Freeze, A.R., and J A. Cherry, Groundwater New Jersey, Prentice-Hall, Inc. 1979.

6.0 REFERENCES

11. N.J. Department of Environmental Protection, Division of Water Resources (DWR), Bureau of Water Allocation, (BWA), Water Withdrawal Points and NJGS Case Index Sites within 5.0 miles of Latitude 392229 and Longitude 750423, August 13, 1988.
12. Uncontrolled hazardous waste ranking system, A user's manual, 40 CFR, Part 300, Appendix A, 1986.
13. Hart, Diane E. Staff Report, in the matter of the City of Millville, Application No. 5316 to renew permit to divert water from eight existing wells in the City of Millville, Cumberland County, New Jersey Department of Environmental Protection, Bureau of Water Allocation.
14. Syed, Aziz. Staff Report, in the matter of Kerr Glass Manufacturing Corp., Application No. 2213P to renew permit to divert water from three wells in the City of Millville, Cumberland County, New Jersey Department of Environmental Protection, Water Allocation Office.
15. Syed, Aziz. Staff report, in the matter of Wheaton Glass Company, Application No. 2095P to renew permit to divert from 15 wells in the City of Millville, Cumberland County, New Jersey Department of Environmental Protection, Bureau of Water Allocation.
16. Project note from Joann Wagner, NUS Corporation, to file concerning records of wells within a 3-mile radius of Aircraft Painting, Inc., on file at the NJDEP, DWR, BWA, 401 East State Street, Third Floor, Trenton, New Jersey.
17. State of New Jersey Department of Environmental Protection, Division of Water Resources. Surface Water Classifications, Surface Water Quality Standards, N.J.A.C. 7:9-4, May 1985.
18. New Jersey Department of Environmental Protection, Division of Water Resources. Surface Water Quality Standards N.J.A.C. 7:9-4.1 et. seq., May 1985.
19. Endangered and threatened wildlife and plants. Department of the Interior, U.S. Fish and Wildlife Service. 50 CFR, 17.11 and 17.12, January 1, 1986.
20. U.S. Department of the Interior, New Jersey Registry of National Historic Sites and Landmarks. February 4, 1987.

6.0 REFERENCES

21. Telecon Notes: Conversations between Jack Harris, Millville Water Department, and Joann Wagner, NUS Corporation, July 22, 1988 and August 19, 1988.
22. Telecon Note: Conversation between Mary Kurserk, NJDEP, and Gerald Hannay, NUS Corporation, October 5, 1989.
23. U.S EPA Contract Laboratory Program, Recra Environmental, Inc., Case No. 10155, Laboratory Analysis from NUS Corporation, Region 2 FIT Site Inspection Conducted on August 2, 1988.
24. U.S. EPA Contract Laboratory Program, JTC Environmental Consultants, Case No. 10155, Laboratory Analysis from NUS Corporation, Region 2 FIT Site Inspection conducted on August 2, 1988.
25. U.S. Federal Register, Vol. 53, No. 122, Friday, June 24, 1988, pages 23791, 23792, and 23793.
26. General Sciences Corporation, Graphical Exposure Modeling System, (GEMS). Landover, Maryland, 1986.